WHAT IS CLAIMED IS:

1. An air conditioner for a vehicle, comprising:

a non-contact temperature sensor that detects a temperature in a predetermined area of a passenger compartment in non contact;

a control unit that controls an air state in the passenger compartment based on at least the temperature detected by the non-contact temperature sensor;

a determining means for determining whether or not the temperature detected by the non-contact temperature sensor is abnormal; and

a notifying means for notifying a passenger whether the temperature detected by the non-contact temperature sensor is abnormal.

2. The air conditioner according to claim 1, wherein the non-contact temperature sensor is disposed at an attachment position that is changeable in the passenger compartment.

3. The air conditioner according to claim 1, wherein the notifying means is a light emitting device that is arranged at a position near the non-contact temperature sensor.

4. The air conditioner according to claim 1, wherein the determining means determines whether the temperature detected by the non-contact temperature sensor at the present time is abnormal, based on a temperature detected by the non-contact

temperature sensor at a time before a predetermined time period from the present time.

5. The air conditioner according to claim 1, further comprising

a temperature displaying portion that displaces a set temperature for controlling the air state in the passenger compartment,

wherein the notifying means displaces a determination result of the determining means by using the temperature displaying portion.

6. The air conditioner according to claim 1, further comprising

environment condition detection means for detecting an environment condition except for the temperature detected by the non-contact temperature sensor, wherein:

the control unit controls the air state in the passenger compartment based on the temperature detected by the non-contact temperature sensor and the environment condition detected by the environment condition detection means; and

the determining means determines whether the temperature detected by the non-contact temperature sensor is normal, based on the environment condition detected by the environment condition detection means.

7. The air conditioner according to claim 6, wherein the

environment condition detection means is a solar radiation detecting means for detecting a solar radiation amount entering into the passenger compartment.

8. The air conditioner according to claim 1, wherein the determining means determines whether the temperature detected by the non-contact temperature sensor is normal, based on whether the temperature detected by the non-contact temperature sensor becomes within a predetermined range for a predetermined time.

9. The air conditioner according to claim 1, wherein the determining means determines whether the temperature detected by the non-contact temperature sensor is normal, based on whether a state where the temperature detected by the non-contact temperature sensor is within a predetermined range is continued for a predetermined time.

10. The air conditioner according to claim 1, wherein the predetermined area includes a plurality of temperature detection ranges.

11. The air conditioner according to claim 6, wherein:

the environment condition detection means includes an outside air detection means for detecting a temperature of outside air outside the passenger compartment; and

the determining means determines that the temperature

detected by the non-contact temperature sensor is normal when the temperature detected by the non-contact temperature sensor is close to the temperature of outside air, detected by the outside air temperature sensor.

12. The air conditioner according to claim 1, further comprising

an opening state determining unit for determining an opening state of a door or a window of the vehicle,

wherein the determining means determines that the temperature detected by the non-contact temperature sensor is normal, when the opening state determining unit determines the opening state of the door or the window.

13. The air conditioner according to claim 1, wherein:

when the determining means determines that the temperature detected by the non-contact temperature sensor is abnormal, a provisional temperature is set as the temperature in the predetermined area, and the control unit controls the air state in the passenger compartment based on the provisional temperature.

14. The air conditioner according to claim 1, wherein the determining means determines whether the temperature detected at the present time by the non-contact temperature sensor is abnormal, based on the temperature detected at the last time by the non-contact temperature sensor and the

temperature detected at the present time by the non-contact temperature sensor.

15. The air conditioner according to claim 1, wherein:

the non-contact temperature sensor is arranged in a dashboard of the passenger compartment to face a driver's seat area, at a side opposite to a steering wheel with respect to a center portion of the dashboard in a vehicle lateral direction.

16. An air conditioner for a vehicle having a passenger compartment, comprising:

an air conditioning unit that is disposed to independently control an air conditioning state of a first zone at a side of a steering wheel in a vehicle lateral direction, and an air conditioning state of a second zone at a side opposite to the steering wheel in the vehicle lateral direction;

a first non-contact temperature sensor that detects a surface temperature of a first detection area in the first zone in non-contact, the first non-contact temperature sensor being arranged in a dashboard to face the first zone;

a second non-contact temperature sensor that detects a surface temperature of a second detection area in the second zone in non-contact, the second non-contact temperature sensor being arranged in the dashboard to face the second zone; and

a control means that controls the air conditioning state in the first zone based on the temperature detected by the

first non-contact temperature sensor, and controls the air conditioning state in the second zone based on the temperature detected by the second non-contact temperature sensor, wherein:

the first non-contact temperature sensor is provided in the dashboard at a side opposite to the steering wheel with respect to a center portion of the dashboard in the vehicle lateral direction; and

the second non-contact temperature sensor is provided at a side of the steering wheel with respect to the center portion of the dashboard in the vehicle lateral direction.

17. The air conditioner according to claim 16, wherein at least one of the first and second non-contact temperature sensors is arranged at a back side than a design surface of the dashboard.

18. The air conditioner according to claim 16, each of the first and second non-contact temperature sensors detects the surface temperature of the detection area in accordance with an amount of infrared rays entering from the detection area.

19. An air conditioner for a vehicle, comprising:

a non-contact temperature sensor that detects a temperature in a predetermined area of a passenger compartment in non contact;

environment condition detection means for detecting an environment condition except for the temperature detected by the non-contact temperature sensor;

a control means for controlling an air state in the passenger compartment based on the temperature detected by the non-contact temperature sensor and the environment condition detected by the non-contact temperature sensor; and

a determining means for determining whether the temperature detected by the non-contact temperature sensor is normal, based on the environment condition detected by the environment condition detection means.

20. The air conditioner according to claim 19, wherein the environment condition detection means is a solar radiation detecting means for detecting a solar radiation amount entering into the passenger compartment.

21. The air conditioner according to claim 19, wherein the predetermined area includes a plurality of temperature detection ranges.

22. The air conditioner according to claim 19, wherein:

the environment condition detection means includes an outside air detection means for detecting a temperature of outside air outside the passenger compartment; and

the determining means determines that the temperature detected by the non-contact temperature sensor is normal when

the temperature detected by the non-contact temperature sensor is close to the temperature of outside air, detected by the outside air temperature sensor.

23. The air conditioner according to claim 19, further comprising

an opening state determining unit for determining an opening state of a door or a window of the vehicle,

wherein the determining means determines that the temperature detected by the non-contact temperature sensor is normal, when the opening state determining unit determines the opening state of the door or the window.

24. The air conditioner according to claim 19, wherein:

when the determining means determines that the temperature detected by the non-contact temperature sensor is abnormal, a provisional temperature is set as the temperature in the predetermined area, and the control unit controls the air state in the passenger compartment based on the provisional temperature.

25. A control process of a computer for a vehicle air conditioner that includes a non-contact temperature sensor for detecting a temperature of a predetermined area in a passenger compartment of the vehicle in non-contact and a control unit for controlling an air state in the passenger compartment based on the temperature detected by the non-contact

temperature sensor, the control process comprising:

determining whether the temperature detected by the non-contact temperature sensor is abnormal; and

notifying a determination result in the determining to a passenger in the passenger compartment.

26. The control process according to claim 25, wherein an attachment position of the non-contact temperature sensor is changeable.

27. A control process for a computer of a vehicle air conditioner, which controls an air conditioning state in a passenger compartment based on a signal from a non-contact temperature sensor that detects a temperature in a predetermined area of the passenger compartment in non contact and a signal from environment condition detection means for detecting an environment condition in the passenger compartment except for the temperature detected by the non-contact temperature sensor, the control process comprising

determining whether or not the temperature detected by the non-contact temperature sensor is normal based on the signal from the environment condition detection means.

28. The control process according to claim 27, wherein the environment condition detection means is a solar radiation detection means for detecting a solar radiation amount entering into the passenger compartment.

29. The control process according to claim 27, further comprising

setting a provisional temperature as the temperature in the predetermined area when it is determined that the temperature detected by the non-contact temperature sensor is abnormal in the determining; and

controlling an air conditioning state in the passenger compartment based on the provisional temperature when it is determined that the temperature detected by the non-contact temperature sensor is abnormal in the determining.

30. The control process according to claim 27, further comprising

notifying that the temperature detected by the non-contact temperature sensor in the predetermined area is abnormal when it is determined that the temperature detected by the non-contact temperature sensor is abnormal in the determining.